

518,882
Rec'd PCT/PTO 20 DEC 2004

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
8 January 2004 (08.01.2004)

PCT

(10) International Publication Number
WO 2004/003073 A1

(51) International Patent Classification⁷: C08L 23/10, B29C 45/00 // (C08L 23/10, 23:08)

(74) Agents: GAVERINI, Gaetano et al.; Basell Poliolefine Italia S.p.A., Intellectual Property, Via Pergolesi, 25, I-20124 Milano (IT).

(21) International Application Number:

PCT/EP2003/006097

(22) International Filing Date: 11 June 2003 (11.06.2003)

(81) Designated States (national): AU, BR, CA, CN, CO, CZ, HU, ID, IL, IN, JP, KR, MX, NO, PH, PL, RO, RU, SG, SK, UA, US, YU, ZA.

(25) Filing Language: English

(84) Designated States (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(26) Publication Language: English

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations
- of inventorship (Rule 4.17(iv)) for US only

(30) Priority Data:

02014214.7 26 June 2002 (26.06.2002) EP

(71) Applicant (for all designated States except US): BASELL POLIOLEFINE ITALIA S.P.A [IT/IT]; Via Pergolesi 25, 20124 Milano (IT).

Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(72) Inventors; and

(75) Inventors/Applicants (for US only): PELLICONI, Antonio [IT/IT]; Via Volta, 22, 45030 Santa Maria Maddalena, Rovigo (IT). ANGELINI, Antonella [IT/IT]; Via Val Trebbia, 16, 44100 Ferrara (IT). SGARZI, Paola [IT/IT]; Via Borgo dei Leoni, 83, 44100 Ferrara (IT).

WO 2004/003073 A1

(54) Title: IMPACT-RESISTANT POLYOLEFIN COMPOSITIONS

(57) Abstract: Polyolefin compositions comprising (percent by weight): 1) 55-80% of a crystalline propylene homopolymer or copolymer containing up to 15% of ethylene and/or C₄-C₁₀ α-olefin(s) and having an MFR value of at least 15 g/10 min, and 2) 20-45 wt% of a copolymer of ethylene with one or more C₄-C₁₀ α-olefin(s) containing from 10 to 4 wt% of said C₄-C₁₀ α-olefin(s). The said compositions have values of MFR equal to or higher than 15 g/10 min, a total content of ethylene of 20% or more, a total content of C₄-C₁₀ α-olefin(s) of 4.5% or more, a ratio of the total content of ethylene to the total content of C₄-C₁₀ α-olefin(s) of 2.3 or more, and an intrinsic viscosity value of the fraction soluble in xylene at room temperature of 1.7 dl/g or less.

INTERNATIONAL SEARCH REPORT

Inte
nal Application No
PCT 03/06097

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C08L23/10 B29C45/00 // (C08L23/10, 23:08)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C08L B29C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 541 260 A (PELLICONI ANTEO ET AL) 30 July 1996 (1996-07-30) abstract column 1, line 5 -column 3, line 40; examples; tables 2-4 ---	1,2,4-10
Y	column 1, line 5 -column 3, line 40; examples; tables 2-4 ---	1-10
Y	US 4 734 459 A (CECCHIN GIULIANO ET AL) 29 March 1988 (1988-03-29) cited in the application abstract column 1, line 6 -column 2, line 46; tables I-II ---	1-10 -/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

25 September 2003

Date of mailing of the international search report

08/10/2003

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.
Fax: (+31-70) 340-3016

Authorized officer

Droghetti, A

INTERNATIONAL SEARCH REPORT

Inte

PC

nernational Application No

03/06097

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 936 248 A (TOYOTA MOTOR CO LTD ;GRAND POLYMER CO LTD (JP)) 18 August 1999 (1999-08-18) abstract page 1, line 5 -page 2, line 19 page 2, line 50 - line 55 examples; tables 1-8 page 8, line 24 - line 41 -----	1-10
A	WO 01 19915 A (FERRARI PAOLO ;PELLICONI ANTEO (IT); SGARZI PAOLA (IT); CECCHIN GI) 22 March 2001 (2001-03-22) cited in the application abstract column 1, line 9 -column 3, line 52; examples; tables 1,2 -----	1-10

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inte
PCT

al Application No
03/06097

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
US 5541260	A 30-07-1996	IT AT AU AU DE DE EP ES JP MX	1256663 B 140947 T 667410 B2 5236493 A 69303881 D1 69303881 T2 0603723 A1 2090829 T3 7003087 A 9307889 A1	12-12-1995 15-08-1996 21-03-1996 30-06-1994 05-09-1996 16-01-1997 29-06-1994 16-10-1996 06-01-1995 29-07-1994
US 4734459	A 29-03-1988	IT AT AU AU CA DE EP ES JP JP NO	1206128 B 46353 T 582175 B2 4555885 A 1276350 C 3572989 D1 0170255 A1 8700294 A1 7042366 B 61042553 A 852996 A ,B,	14-04-1989 15-09-1989 16-03-1989 06-02-1986 13-11-1990 19-10-1989 05-02-1986 01-01-1987 10-05-1995 01-03-1986 31-01-1986
EP 0936248	A 18-08-1999	JP AU AU DE EP US	11228782 A 745801 B2 1643799 A 69906845 D1 0936248 A1 6121363 A	24-08-1999 11-04-2002 02-09-1999 22-05-2003 18-08-1999 19-09-2000
WO 0119915	A 22-03-2001	AU BR CA CN CZ WO EP HU JP NO PL TR US	7517000 A 0007075 A 2349297 A1 1321178 T 20012131 A3 0119915 A1 1135440 A1 0104592 A2 2003509562 T 20012326 A 347656 A1 200101320 T1 6441094 B1	17-04-2001 10-07-2001 22-03-2001 07-11-2001 13-03-2002 22-03-2001 26-09-2001 28-03-2002 11-03-2003 11-05-2001 22-04-2002 21-12-2001 27-08-2002